(1) STR Core – students must complete at least six of the following courses:

- CE 5300 Advanced Design of Metal Structures
- CE 5310 Pre-stressed Concrete Design
- CE 5320 Advanced Reinforced Concrete Design
- CE 5340 Advanced Structural Topics
- CE 5700 Foundations Engineering
- CE 6050 Nondestructive Testing and Evaluation
- CE 6500 Bridge Design and Engineering
- CE 6710 Advanced Mechanics of Materials
- CE 6720 Continuum Mechanics
- CE 6750 Mechanics of Composite Materials
- CE 6770 Theory of Elasticity
- CE 7340 Dynamics of Structures
- ARCH 7210 Structural Design for Dynamic Loads
- MSE 6050 Structure and Properties of Materials I
- MSE 6120 Characterization of Materials
- MSE 6320 Deformation and Fracture of Structural Materials

(2) Systems, Sustainability, Resilience, and Risk (SSRR) electives – students must complete one course from the following list:

- CE 5000 Management of Large-Scale Projects
- CE 6009 The Art and Science of Systems Modeling
- CE 6030 Green Engineering
- CE 6360 Smart Structures
- SYS 6001 Introduction to Systems Analysis and Design
- SYS 6050 Risk Analysis

(3) The technical elective may include any technical course at or above the 5xxx level approved by the academic adviser. One elective may constitute research or a professional internship (i.e., CE 6995 - refer to the CE website for details).

(4) Pre-requisite courses to begin STR ME Track include:

- CE 3300 Structural Mechanics or Approved Equivalent
CE 3330    Introduction to Structural Design or Approved Equivalent

(5) Students may be permitted to modify this framework, pending approval of their academic advisor and the CE Director of Graduate Studies. Additionally, online courses from Virginia’s CGEP program may be suitable to meet the requirements for this degree. See cgep.virginia.gov/courses for current course offerings.